

 Look Up Full Text

Full Text from Publisher



Save to EndNote online

Add to Marked List

◀ 1 of 1 ▶

Context-aware services based on spatio-temporal zoning and crowdsourcing

By: Ahmad, A (Ahmad, Akhlaq)^[1,2]; Rahman, MA (Rahman, Md Abdur)^[3,7]; Wahiddin, MR (Wahiddin, Mohamed Ridza)^[2]; Rehman, FU (Rehman, Faizan Ur)^[4,5]; Khelil, A (Khelil, Abdelmajid)^[6]; Lbath, A (Lbath, Ahmed)^[5]

BEHAVIOUR & INFORMATION TECHNOLOGY

Volume: 37 Issue: 7 Pages: 736-760

DOI: 10.1080/0144929X.2018.1476586

Published: 2018

Document Type: Article

[View Journal Impact](#)

Abstract

Crowdsourcing offers great opportunities to recognise user context and prescribe relevant services for both offline and real-time activities. In this work, we present a zoning model that leverages spatio-temporal dimensions and then employs different contexts to recommend necessary customised services. The context model takes into consideration three context sets: fully restricted, fully unrestricted and semi-restricted with respect to both spatial and temporal dimensions. As a proof of concept, we apply this zoning model in a scenario where a very large crowd get together to perform spatio-temporal activities. The user context of the heterogeneous crowd is captured using the carried smartphones, i.e. via crowdsourcing. Depending on the context sets and zone, the system can recommend a set of services to each user. The system has been deployed since 2014 to support the spatio-temporal activities of a very large crowd. We present our implementation details and the user feedback, which is very encouraging.

Keywords

Author Keywords: [Crowdsourcing](#); [spatio-temporal zones](#); [context-aware services](#); [system usability](#); [Hajj and Umrah](#)

KeyWords Plus: [FRAMEWORK](#)

Author Information

Reprint Address: Ahmad, A (reprint author)

+ Umm Al Qura Univ, Coll Engn, Mecca, Saudi Arabia.

Addresses:

+ [1] Umm Al Qura Univ, Coll Engn, Mecca, Saudi Arabia

+ [2] Int Islamic Univ, KICT, Kuala Lumpur, Malaysia

+ [3] Umm Al Qura Univ, Coll Comp & Informat Syst, Mecca, Saudi Arabia

+ [4] Umm Al Qura Univ, Sci & Technol Unit, Mecca, Saudi Arabia

+ [5] Univ Grenoble Alpes, Dept Comp Sci, LIG, Grenoble, France

+ [6] Tech Univ Darmstadt, Darmstadt, Germany

[7] Univ Prince Mughrin, Forens Comp & Cyber Secur Dept, Madinah, Saudi Arabia

E-mail Addresses: aajee@uqu.edu.sa

Citation Network

In Web of Science Core Collection

0

Times Cited



Create Citation Alert

56

Cited References

[View Related Records](#)

Use in Web of Science

Web of Science Usage Count

0

Last 180 Days

0

Since 2013

[Learn more](#)

This record is from:

Web of Science Core Collection

- Science Citation Index Expanded

- Social Sciences Citation Index

Suggest a correction

If you would like to improve the quality of the data in this record, please [suggest a correction](#).

Publisher

TAYLOR & FRANCIS LTD, 2-4 PARK SQUARE, MILTON PARK, ABINGDON OR14 4RN, OXON, ENGLAND

Journal InformationImpact Factor: [Journal Citation Reports](#)**Categories / Classification**

Research Areas: Computer Science; Engineering

Web of Science Categories: Computer Science, Cybernetics; Ergonomics

Document Information

Language: English

Accession Number: WOS:000435002600007

ISSN: 0144-929X

eISSN: 1362-3001

Other Information

IDS Number: GJ1GJ

Cited References in Web of Science Core Collection: **56**

Times Cited in Web of Science Core Collection: 0

[See fewer data fields](#)

◀1 of 1▶

Cited References: 56Showing 30 of 56 [View All in Cited References page](#)*(from Web of Science Core Collection)*

- | | | |
|----|---|-----------------------|
| 1. | <p>Cyberguide: A Mobile Context-Aware Tour Guide</p> <p>By: Abowd, G.D.; Atkeson, C; Hong.
Baltzer Journals. Volume: 3 Pages: 1-21 Published: 1996</p> | Times Cited: 2 |
| 2. | <p>Title: [not available]</p> <p>By: AHMAD A
IEEE INT C MULT BIG Pages: 286 Published: 2015</p> | Times Cited: 1 |
| 3. | <p>Towards a mobile and context-aware framework from crowdsourced data</p> <p>By: Ahmad, A.; Rahman, M. A; Afyouni, I.
5 INT C INF COMM TEC Pages: 1-6 Published: 2014
Publisher: IEEE</p> | Times Cited: 8 |
| 4. | <p>A Framework for Crowd-Sourced Data Collection and Context-Aware Services in Hajj and Umrah</p> <p>By: Ahmad, Akhlaq; Rahman, Md. Abdur; Rehman, Faizan Ur; et al.
2014 IEEE/ACS 11TH INTERNATIONAL CONFERENCE ON COMPUTER SYSTEMS AND APPLICATIONS (AICCSA) Book Series: International Conference on Computer Systems and Applications Pages: 405-412 Published: 2014</p> | Times Cited: 4 |
| 5. | <p>i-Diary: A Crowdsourced-based Spatio-Temporal Multimedia Enhanced Points of Interest Authoring Tool</p> <p>By: Ahmad, Akhlaq; Rehman, Faizan Ur; Rahman, Md. Abdur; et al.
MM'15: PROCEEDINGS OF THE 2015 ACM MULTIMEDIA CONFERENCE Pages: 809-810 Published: 2015</p> | Times Cited: 2 |
| 6. | <p>Quality and Context-aware Data Collection Architecture from Crowd-sourced Data</p> | Times Cited: 1 |